

I. AMENDMENTS

Please cancel claims 5 to 14, 20 and 24 without prejudice, and amend claims 1, 16 and 17 as indicated below. Upon entry of the present amendment, the status of the claims will be as follows:

1. (Currently amended) An isolated polypeptide comprising at least one non-natural amino acid inserted into a hydrophobic core region of the polypeptide, wherein the hydrophobic core region comprises a heptad leucine zipper domain which forms an α -helix, and wherein the non-natural amino acid replaces a hydrophobic amino acid in the heptad leucine zipper domain and causes an increase in the thermal stability of the polypeptide as compared with a corresponding wild type polypeptide not having the non-natural amino acid.

2. (Cancelled)

3. (Previously presented) The isolated polypeptide of claim 1, wherein the non-natural amino acid is a hydrophobic non-natural amino acid.

4. (Previously presented) The isolated polypeptide of claim 1, wherein the non-natural amino acid is a hydrophobic non-natural amino acid selected from the group consisting of an unsaturated hydrophobic amino acid; a fluorinated hydrophobic amino acid; 2-amino-3-methyl-4-pentenoic acid; 5,5,5-trifluoroleucine; 5,5,5,5',5',5'-hexafluoroleucine; 2-amino-3,3,3-trifluoro-methylpentanoic acid; 2-amino-3-methyl-5,5,5-trifluoropentanoic acid; 2-amino-3-methyl-4-pentenoic acid; 4,4,4-trifluorovaline; 4,4,4,4',4',4'-hexafluorovaline; homoallylglycine; homoproparglycine; and p-fluorophenylalanine.

5 to 14. (Cancelled)

15. (Previously presented) The isolated polypeptide of claim 3, wherein the non-natural amino acid is a hyper-hydrophobic amino acid.

16. (Currently amended) The isolated polypeptide of claim 1, wherein the hydrophobic core region of the polypeptide contains at least one leucine, isoleucine, or valine.

17. (Currently amended) The isolated polypeptide of claim 1, wherein the hydrophobic core region of the polypeptide contains at least one methionine or phenylalanine.

18. (Previously presented) The isolated polypeptide of claim 1, wherein the non-natural amino acid is inserted at a site adjacent to leucine, isoleucine, or valine in the hydrophobic region of the polypeptide.

19. (Previously presented) The isolated polypeptide of claim 1, wherein the non-natural amino acid is inserted at a site adjacent to methionine or phenylalanine in the hydrophobic region of the polypeptide.

20. (Cancelled)

21. (Previously presented) The isolated polypeptide of claim 1, wherein the polypeptide is a cytokine, membrane protein or an enzyme.

22. (Currently amended) The isolated polypeptide of claim 1, wherein the polypeptide is a tumor necrosis factor, granulocyte colony stimulating factor, ~~erythropoietin~~ erythropoietin, subtilisin, thermolysin, dehydrogenase, or esterase.

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23. (Previously presented) The isolated polypeptide of claim 1, wherein the non-natural amino acid is a fluorinated amino acid.

24. (Cancelled)